Exhibit A

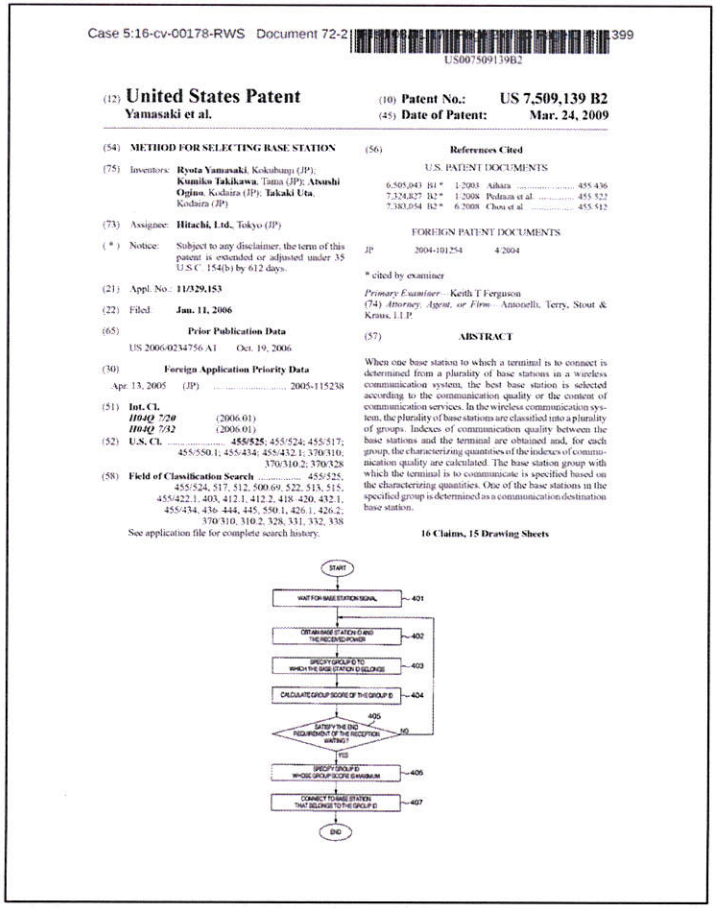
Huawei's Claim Construction Presentation

Maxell, LTD. v. Huawei Device USA Inc. et al.

Case No. 5:16-cv-00178-RWS (E.D. Tex.)

Agenda

- ’139 Patent
- ’292 Patent
- ’440 Patent
- ’760 Patent
- ’517 Patent
- ’901 Patent
- ’438 Patent
- ’443 Patent



Case 5:16-cv-00178-RWS Document 72-2 Filed 11/30/17 Page 399

US007509139B2

(12) **United States Patent**
Yamasaki et al.

(10) **Patent No.: US 7,509,139 B2**
(45) **Date of Patent: Mar. 24, 2009**

(54) **METHOD FOR SELECTING BASE STATION**

(75) Inventors: **Ryota Yamasaki**, Kokubunji (JP); **Kumiko Takikawa**, Tama (JP); **Atsushi Ogino**, Kodaira (JP); **Takaki Uta**, Kodaira (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 612 days.

(21) Appl. No.: **11/329,153**

(22) Filed: **Jan. 11, 2006**

(65) **Prior Publication Data**

US 2006/0234756 A1 Oct. 19, 2006

(30) **Foreign Application Priority Data**

Apr. 13, 2005 (JP) 2005-115238

(51) **Int. Cl.**
H04Q 7/20 (2006.01)
H04Q 7/32 (2006.01)

(52) **U.S. Cl.** **455/525**; 455/524; 455/517; 455/550.1; 455/434; 455/432.1; 370/310; 370/310.2; 370/328

(58) **Field of Classification Search** 455/525, 455/524, 517, 512, 500.69, 522, 513, 515, 455/422.1, 403, 412.1, 412.2, 418-420, 432.1, 455/434, 436-444, 445, 550.1, 426.1, 426.2; 370/310, 310.2, 328, 331, 332, 338

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,505,043	B1 *	1/2003	Aihara	455/436
7,324,827	B2 *	1/2008	Pedaran et al.	455/522
7,383,054	B2 *	6/2008	Chou et al.	455/512

FOREIGN PATENT DOCUMENTS

JP	2004-101254	4/2004	

* cited by examiner

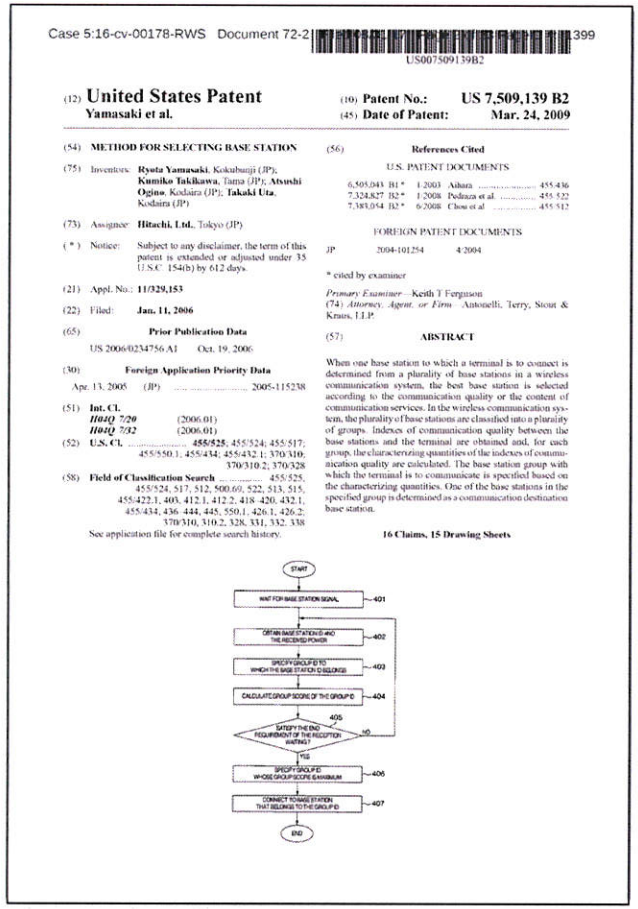
Primary Examiner—Keith T Ferguson
(74) *Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus, LLP

(57) **ABSTRACT**

When one base station to which a terminal is to connect is determined from a plurality of base stations in a wireless communication system, the best base station is selected according to the communication quality or the content of communication services. In the wireless communication system, the plurality of base stations are classified into a plurality of groups. Indexes of communication quality between the base stations and the terminal are obtained and, for each group, the characterizing quantities of the indexes of communication quality are calculated. The base station group with which the terminal is to communicate is specified based on the characterizing quantities. One of the base stations in the specified group is determined as a communication destination base station.

16 Claims, 15 Drawing Sheets

’139 Patent: Disputed Terms



Case 5:16-cv-00178-RWS Document 72-2 399

US007509139B2

(12) **United States Patent**
Yamasaki et al.

(10) **Patent No.: US 7,509,139 B2**
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(54) **METHOD FOR SELECTING BASE STATION**

(75) Inventors: **Ryota Yamasaki**, Kokubunji (JP); **Kumiko Takikawa**, Tama (JP); **Atsushi Ogino**, Kodaira (JP); **Takaki Uta**, Kodaira (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

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(51) **Int. Cl.**
H04Q 7/20 (2006.01)
H04Q 7/32 (2006.01)

(52) **U.S. Cl.** **455/525**; 455/524; 455/517; 455/550.1; 455/434; 455/432.1; 370/310; 370/310.2; 370/328

(58) **Field of Classification Search** 455/525, 455/524, 517, 512, 500.69, 522, 513, 515, 455/422.1, 403, 412.1, 412.2, 418–420, 432.1, 455/434, 436–444, 445, 550.1, 426.1, 426.2; 370/310, 310.2, 328, 331, 332, 338

See application file for complete search history.

(56) **References Cited**

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7,324,827	B2 *	1/2008	Pedraza et al.	455/522
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When one base station to which a terminal is to connect is determined from a plurality of base stations in a wireless communication system, the best base station is selected according to the communication quality or the content of communication services. In the wireless communication system, the plurality of base stations are classified into a plurality of groups. Indexes of communication quality between the base stations and the terminal are obtained and, for each group, the characterizing quantities of the indexes of communication quality are calculated. The base station group with which the terminal is to communicate is specified based on the characterizing quantities. One of the base stations in the specified group is determined as a communication destination base station.

16 Claims, 15 Drawing Sheets

- “a storage unit in which group information generated by classifying the plurality of base stations into groups” (claim 11)

'139 Patent: Agreed Constructions

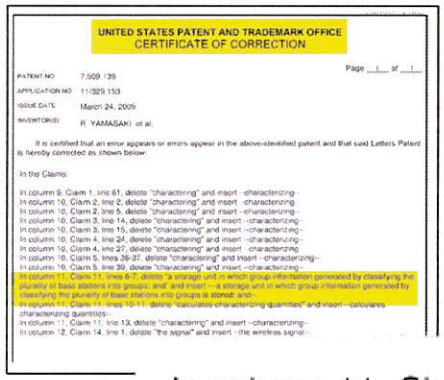
No.	Term	Agreed Construction
14	"characterizing quantities of the communication quality for each of the groups" ('139 Patent, Claims 1 and 11)	"group scores derived from the indication of communication quality for each base station in a group"
10	"obtaining an index of communication quality between the terminal and the base station" ('139 Patent, Claims 1 and 11)	"obtaining an indication of communication quality between the terminal and the base stations"

'139 Patent: "storage unit" (11)

No.	Term	Maxell	Huawei
2	"storage unit in which group information generated by classifying the plurality of base stations into groups" ('139 Patent, Claim 11)	Not indefinite; plain and ordinary meaning	**Indefinite** because the claim term does not inform those skilled in the art about the claim's scope with reasonable certainty

’139 Patent: “storage unit” (11)

Potential Correction #1	Potential Correction #2
“storage unit in which group information generated by classifying the plurality of base stations into groups **[is stored]**”	“storage unit in which group information generated by classifying the plurality of base stations into groups **[is stored in RAM]**”



UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

In column 11, Claim 11, lines 6-7, delete “a storage unit in which group information generated by classifying the plurality of base stations into groups; and” and insert --a storage unit in which group information generated by classifying the plurality of base stations into groups is stored; and--.

CoC (Dkt. 106.11)

'139 Patent: "storage unit" (11)

Maxell's Certificate of Correction Has No Effect Here

H-W Tech., L.C. v. Overstock.com, Inc.

"The certificate of correction is only effective for causes of action arising after it was issued. …[I]t appears that H–W never even sought to amend the complaint to reflect the correction of claim 9. Thus, the district court was correct not to consider the certificate of correction when determining whether H–W could assert claim 9."

H-W Tech., L.C. v. Overstock.com, Inc., 758 F.3d 1329, 1334 (Fed. Cir. 2014)

LG Elecs., Inc. v. Quanta Computer Inc.

"[A]ny certificate of correction it received from the patent office would not be effective for the purpose of enforcement unless it filed a new lawsuit or amended its complaint."

LG Elecs., Inc. v. Quanta Computer Inc., 566 F. Supp. 2d 910, 912–13 (W.D. Wis. 2008) (*citing Southwest Software, Inc. v. Harlequin Inc.*, 226 F.3d 1280, 1294 (Fed. Cir. 2000))

'139 Patent: "storage unit" (11)

Maxell's Certificate of Correction Has No Effect Here

Nat'l Prod., Inc. v. Palmetto W. Trading Co., LLC

"[T]he court's construction of the terms … as originally issued controls for allegations of infringement that pre-date the Certificate of Correction issued on October 11, 2005. At this time, if the parties wish to amend their allegations of infringement or invalidity based on the recently filed Correction, the court directs the parties to consult the court's original scheduling order in this matter, which requires the asserting party to show 'good cause.'"

Nat'l Prod., Inc. v. Palmetto W. Trading Co., LLC, No. C05-345JLR, 2006 WL 1207895, at *9 (W.D. Wash. May 4, 2006)

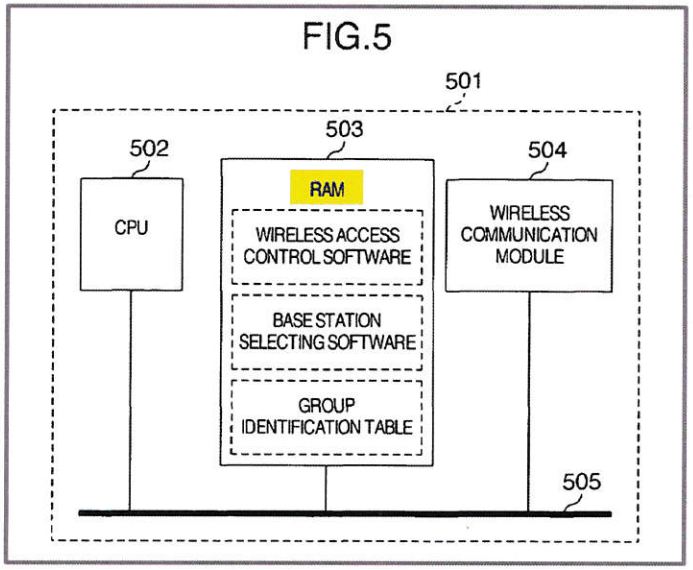
Pfizer Inc. v. Teva Pharm. U.S.A., Inc.

"While the defendants are correct that, generally speaking, a certificate of correction applies only to actions filed after that certificate issued, this rule does not preclude application of Pfizer's Certificate, Rather, because infringement under § 271(e)(2) is hypothetical and, therefore, cannot occur prior to the filing of a complaint, a certificate of correction can be applied where the defendants' ANDA products will prospectively infringe the patents-in-suit."

Pfizer Inc. v. Teva Pharm. U.S.A., Inc., 882 F. Supp. 2d 643, 699 (D. Del. 2012), *aff'd* 555 F. App'x 961 (Fed. Cir. 2014)

'139 Patent: "storage unit" (11)

Potential Correction #1	Potential Correction #2
"storage unit in which group information generated by classifying the plurality of base stations into groups **[is stored]**"	"storage unit in which group information generated by classifying the plurality of base stations into groups **[is stored in RAM]**"



'139 Patent, Fig. 5

shown in FIG. 3A. The wireless communication function and the base station selection algorithm are implemented by executing the software, stored in the RAM, by the CPU. The

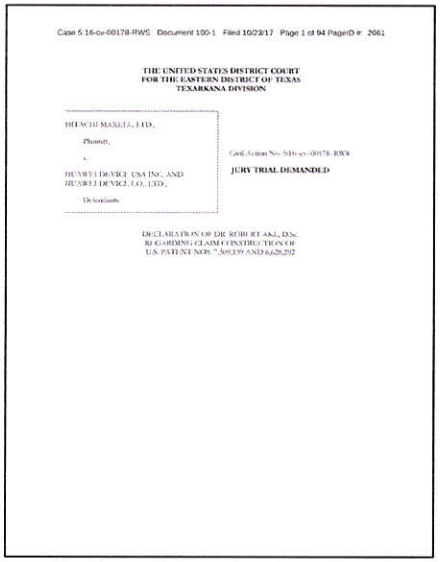
'139 Patent, 6:1-3

'139 Patent: "storage unit" (11)

Baran v. Med. Device Techs., Inc.

"It is not necessary that each claim read on every embodiment. In this instance, while claim 2 reads on only the reusable embodiment, a different claim of the '798 patent (claim 18) reads on both the single-use and the reusable embodiments."

Baran v. Med. Device Techs., Inc., 616 F.3d 1309, 1316 (Fed. Cir. 2010) (citations omitted)



Case 5:16-cv-00178-RWS Document 100-1 Filed 10/23/17 Page 1 of 94 PageID #: 2061

THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

HITACHI MAXELL, LTD.,

Plaintiff,

v.

Civil Action No. 5:16-cv-00178-RWS

HUAWEI DEVICE USA INC. AND HUAWEI DEVICE CO., LTD.,

Defendants.

JURY TRIAL DEMANDED

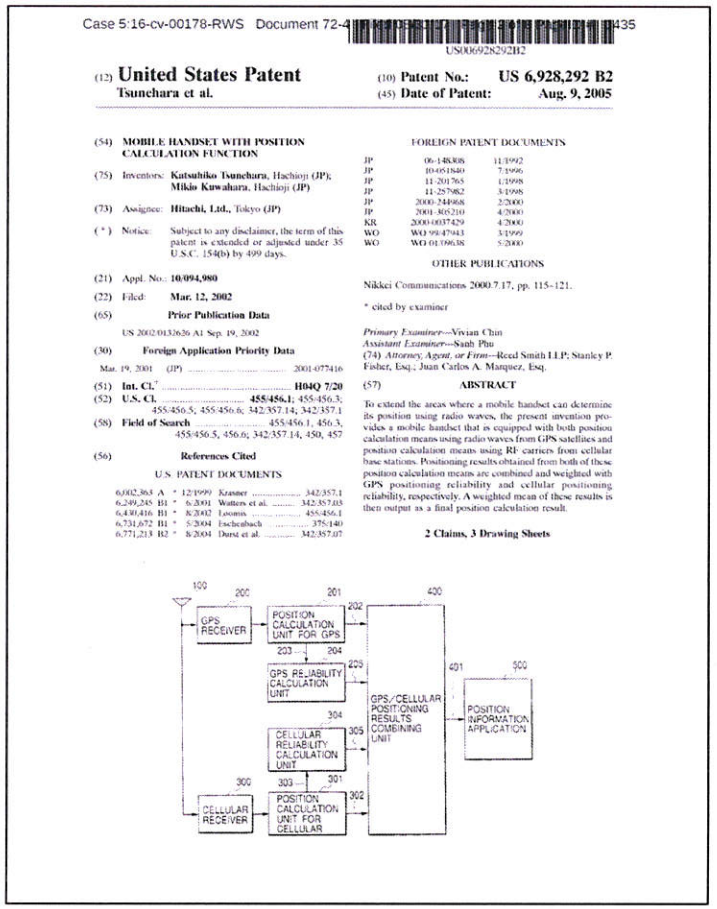
DECLARATION OF DR. ROBERT AKL, D.Sc.
REGARDING CLAIM CONSTRUCTION OF
U.S. PATENT NOS. 7,869,139 AND 8,628,592

189. Unlike Maxell's proposed addition—"… is stored"—the addition of "… is stored in RAM" would reflect the preferred, and only, embodiment actually disclosed in the '139 patent. *See* '139 patent, Fig. 5, 5:60-6:11. But both corrections would be reasonable, and it would not be possible for one of skill in the art to decide with reasonable certainty that only one of these possible corrections was what was intended for the claim.

Akl Decl. (Dkt. 100-1) ¶189

Agenda

- '139 Patent
- '292 Patent
- '440 Patent
- '760 Patent
- '517 Patent
- '901 Patent
- '438 Patent
- '443 Patent



Case 5:16-cv-00178-RWS Document 72-4 [redacted] 435

US006928292B2

(12) **United States Patent**
Tsunehara et al.

(10) **Patent No.: US 6,928,292 B2**
(45) **Date of Patent: Aug. 9, 2005**

(54) **MOBILE HANDSET WITH POSITION CALCULATION FUNCTION**

(75) Inventors: **Katsuhiko Tsunehara**, Hachioji (JP); **Mikio Kuwahara**, Hachioji (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 499 days.

(21) Appl. No.: **10/094,980**

(22) Filed: **Mar. 12, 2002**

(65) **Prior Publication Data**

US 2002/0132636 A1 Sep. 19, 2002

(30) **Foreign Application Priority Data**

Mar. 19, 2001 (JP) 2001-077416

(51) **Int. Cl.**[7] **H04Q 7/20**

(52) **U.S. Cl.** **455/456.1**; 455/456.3; 455/456.5; 455/456.6; 342/357.14; 342/357.1

(58) **Field of Search** 455/456.1, 456.3, 455/456.5, 456.6; 342/357.14, 450, 457

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,002,363	A *	12/1999	Krasner	342/357.1
6,249,245	B1 *	6/2001	Watters et al.	342/357.03
6,430,416	B1 *	8/2002	Loomis	455/456.1
6,731,672	B1 *	5/2004	Escheabach	375/140
6,771,213	B2 *	8/2004	Durst et al.	342/357.07

FOREIGN PATENT DOCUMENTS

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JP	11-201765	1/1998
JP	11-257982	3/1998
JP	2000-244968	2/2000
JP	2001-305210	4/2000
KR	2000-0037429	4/2000
WO	WO 99/47943	3/1999
WO	WO 01/06638	5/2000

OTHER PUBLICATIONS

Nikkei Communications 2000.7.17, pp. 115–121.

* cited by examiner

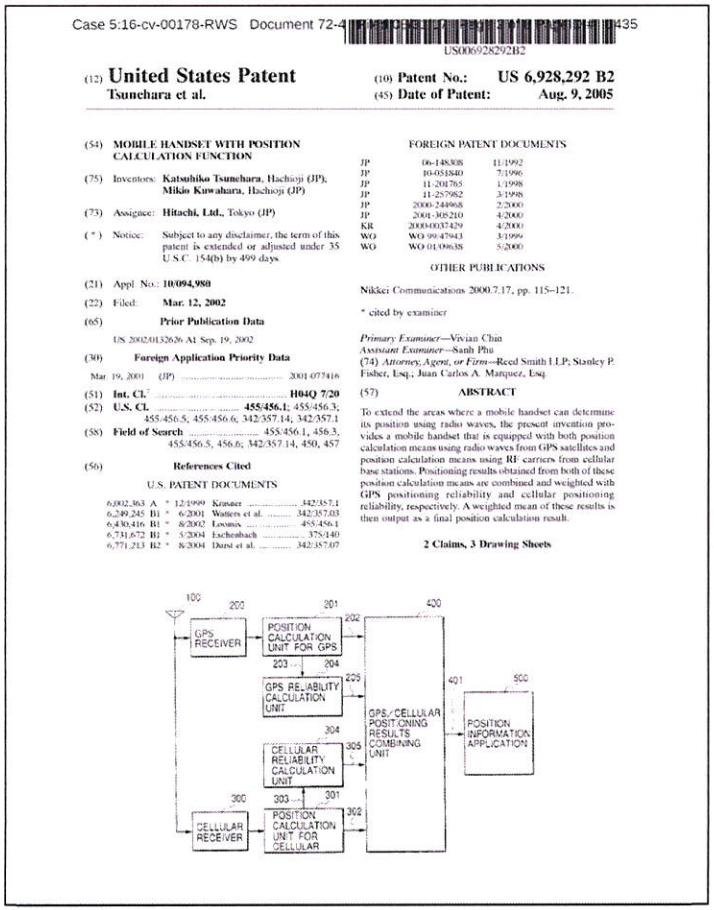
Primary Examiner—Vivian Chin
Assistant Examiner—Sanh Phu
(74) *Attorney, Agent, or Firm*—Reed Smith LLP; Stanley P. Fisher, Esq.; Juan Carlos A. Marquez, Esq.

(57) **ABSTRACT**

To extend the areas where a mobile handset can determine its position using radio waves, the present invention provides a mobile handset that is equipped with both position calculation means using radio waves from GPS satellites and position calculation means using RF carriers from cellular base stations. Positioning results obtained from both of these position calculation means are combined and weighted with GPS positioning reliability and cellular positioning reliability, respectively. A weighted mean of these results is then output as a final position calculation result.

2 Claims, 3 Drawing Sheets

’292 Patent: Disputed Terms



Case 5:16-cv-00178-RWS Document 72-4 435

US006928292B2

(12) **United States Patent**
Tsunehara et al.

(10) **Patent No.: US 6,928,292 B2**
(45) **Date of Patent: Aug. 9, 2005**

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(75) Inventors: **Katsuhiko Tsunehara**, Hachioji (JP); **Mikio Kuwahara**, Hachioji (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

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(22) Filed: **Mar. 12, 2002**

(65) **Prior Publication Data**

US 2002/0132626 A1 Sep. 19, 2002

(30) **Foreign Application Priority Data**

Mar. 19, 2001 (JP) 2001-077416

(51) **Int. Cl.**[7] **H04Q 7/20**

(52) **U.S. Cl.** **455/456.1**; 455/456.3; 455/456.5; 455/456.6; 342/357.14; 342/357.1

(58) **Field of Search** 455/456.1, 456.3, 455/456.5, 456.6; 342/357.14, 450, 457

(56) **References Cited**

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6,002,363	A *	12/1999	Krasner	342/357.1
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6,430,416	B1 *	8/2002	Loomis	455/456.1
6,731,672	B1 *	5/2004	Eschenbach	375/140
6,771,213	B2 *	8/2004	Durst et al.	342/357.07

FOREIGN PATENT DOCUMENTS

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JP	11-201765	1/1998
JP	11-257982	3/1998
JP	2000-244968	2/2000
JP	2001-305210	4/2000
KR	2000-0037429	4/2000
WO	WO 99/47943	3/1999
WO	WO 01/09638	5/2000

OTHER PUBLICATIONS

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* cited by examiner

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To extend the areas where a mobile handset can determine its position using radio waves, the present invention provides a mobile handset that is equipped with both position calculation means using radio waves from GPS satellites and position calculation means using RF carriers from cellular base stations. Positioning results obtained from both of these position calculation means are combined and weighted with GPS positioning reliability and cellular positioning reliability, respectively. A weighted mean of these results is then output as a final position calculation result.

2 Claims, 3 Drawing Sheets

- “combining” / “combined” (1 and 2)
- “GPS/cellular positioning results combining means” (1)
- “GPS position calculation” means (1)
- “GPS receiver means” (1)
- “cellular receiver means” (1)
- “GPS position calculation means” (1)
- “cellular position calculation means” (1)
- “GPS reliability calculation means” (1)
- “cellular reliability calculation means (1)

'292 Patent: "combining" / "combined" (1 and 2)

No.	Term	Maxell	Huawei
3	"combining" / "combined" ('292 Patent, Claims 1 and 2)	Maxell: "a determination based on one or more inputs"	Huawei: "merging"/ "merged"

'292 Patent: "combining" / "combined" (1 and 2)

"combining"

GPS/cellular positioning results combining means for combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability, wherein said GPS and cellular receiver means are adapted to receive GPS and cellular-oriented signals simultaneously.

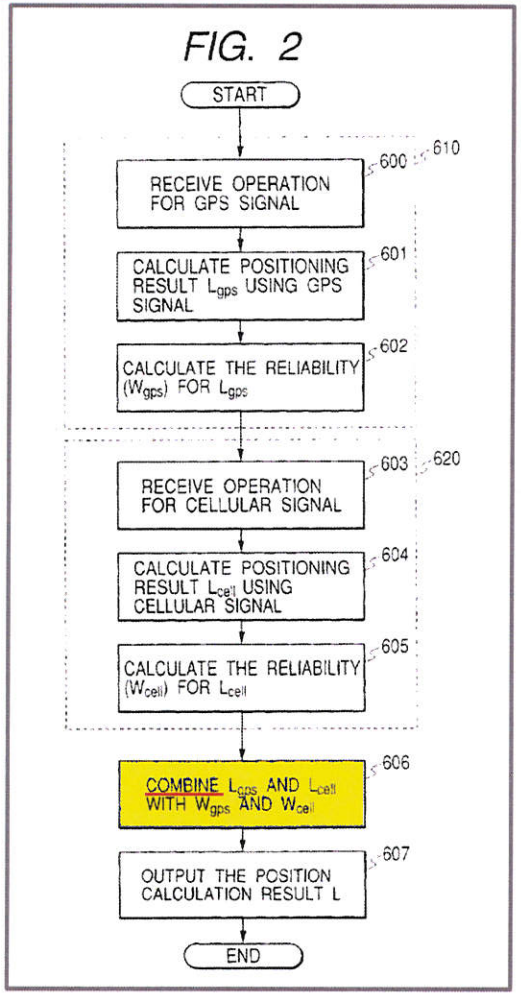
'292 Patent, claim 1

"combined"

outputting a combined GPS/cellular device position based on the GPS-based position, the GPS positioning reliability, the cellular-based position, and the cellular positioning reliability, wherein said GPS and cellular signals are received simultaneously and said GPS-based and cellular-based positions are calculated simultaneously.

'292 Patent, claim 2

'292 Patent: "combining" / "combined" (1 and 2)



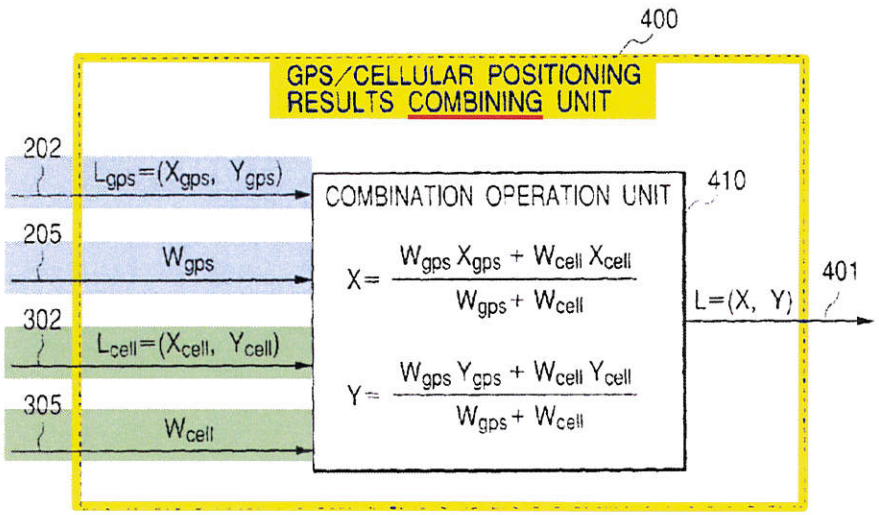
'292 Patent, Fig. 2

The mobile handset then preferably combines the positioning result L_{gps} using the GPS signals and the positioning result L_{cell} using the cellular signals (obtained in the above steps) depending on the reliability W_{gps} and the reliability W_{cell} for each positioning (step **606**). The mobile handset then outputs a final position calculation result L **607**.

'292 Patent, 3:12-17

'292 Patent: "combining" / "combined" (1 and 2)

FIG. 3



'292 Patent, Fig. 3

In some cases, the cellular reliability calculation unit **304** may determine that calculating the position of the handset using cellular signals is not possible, as was the case for the GPS reliability calculation unit **204**. In that event, the cellular reliability calculation unit **304** preferably outputs a value of 0, so that the position calculation result **302** using the cellular signals has no effect on further processing.

The GPS/cellular positioning results combining unit **400** combines the positioning result **202** using the GPS signals and the positioning result **302** using the cellular signals, depending on the reliability **205** and the reliability **305** for each positioning, and it **400** outputs a position calculation result **401**.

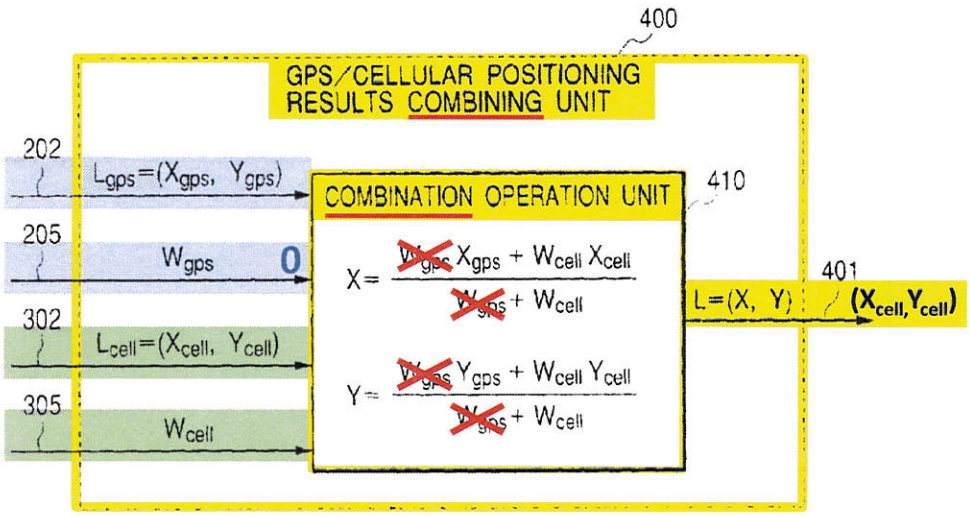
FIG. **3** represents an exemplary embodiment of the GPS/cellular positioning results combining unit **400**. In the FIG. **3** example, the positioning result **202** using the GPS signals and the positioning result **302** using the cellular signals are weighted with the reliability **205** and the reliability **305**, respectively. The combination operation unit **410** calculates a weighted mean of the above results and outputs the result as the position calculation result **401**.

'292 Patent, 4:35-56

'292 Patent: "combining" / "combined" (1 and 2)

- **If unreliable, a position estimate is still combined (with a weight of 0)**

FIG. 3



'292 Patent, Fig. 3

By way of illustration, if the received signal quality (for example, the signal-to-noise ratio (SNR) in decibels) is used, the lowest SNR among the SNRs of the signals received from the GPS satellites may be used as the reliability **205**. In some cases, the GPS reliability calculation unit **204** may determine that positioning by GPS is impossible. (For example, if the number of GPS satellites used is found to be two or less). In that event, the GPS reliability calculation unit **204** preferably outputs a value of 0 as the reliability **205** so that the GPS-based position calculation result **202** has no effect on further processing.

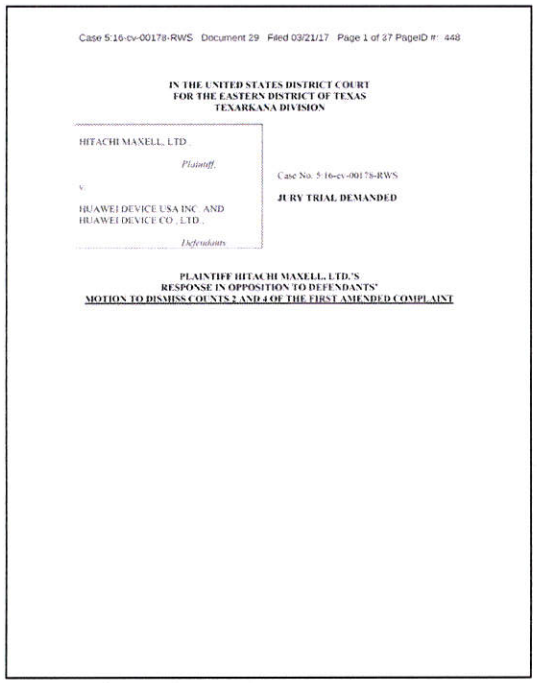
'292 Patent, 3:60-4:3

In some cases, the cellular reliability calculation unit **304** may determine that calculating the position of the handset using cellular signals is not possible, as was the case for the GPS reliability calculation unit **204**. In that event, the cellular reliability calculation unit **304** preferably outputs a value of 0, so that the position calculation result **302** using the cellular signals has no effect on further processing.

'292 Patent, 4:35-42

'292 Patent: "combining" / "combined" (1 and 2)

- **Maxell admits that the '292 Patent is about "merging"**



Case 5:16-cv-00178-RWS Document 29 Filed 03/21/17 Page 1 of 37 PageID #: 448

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

HITACHI MAXELL, LTD.,

Plaintiff,

v.

HUAWEI DEVICE USA INC. AND HUAWEI DEVICE CO., LTD.,

Defendants.

Case No. 5:16-cv-00178-RWS

JURY TRIAL DEMANDED

PLAINTIFF HITACHI MAXELL, LTD.'S
RESPONSE IN OPPOSITION TO DEFENDANTS'
MOTION TO DISMISS COUNTS 2 AND 4 OF THE FIRST AMENDED COMPLAINT

Dkt. 29 (Maxell's Resp. to MTD)

The device could then determine the reliability of each estimate based on signal quality and number of sources, and use those reliability determinations to merge the estimates into a final location. *Id.*

Dkt. 29 (Maxell's Resp. to MTD) at 1 (citing Braasch Decl. ¶12)

To overcome these shortcomings, the inventors proposed supplementing the GPS data with a complementary source of location information—cellular signals. The mobile handset could generate two estimates of its location, one based on GPS signals from satellites and a second based on "synchronization acquisition and reception timing measurements" of cellular signals. *Id.* at 2:66-3:6; Ex. A ¶16. The handset could then merge the two estimates based on the reliability of each. Ex. A ¶16.

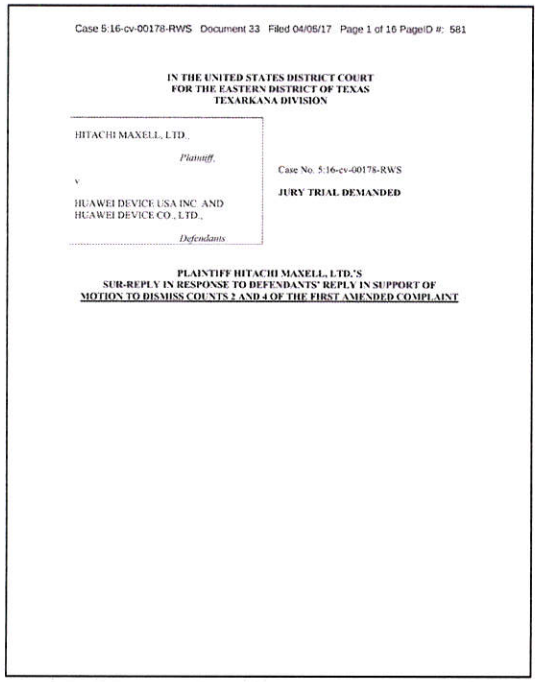
Dkt. 29 (Maxell's Resp. to MTD) at 4

stations used and on signal quality from those stations. '292 patent, 3:6-11; Ex. A ¶16. The handset could then use the two reliability measures to merge the GPS-based and cellular-based estimates into a single, "final" location. '292 patent, 3:12-17. By using both GPS signals and cellular signals in this way, the mobile device could offer more accurate location services indoors, under cloud cover, and/or in proximity to a tall building or other obstructions. *Id.* at 5:3-12.

Dkt. 29 (Maxell's Resp. to MTD) at 5

'292 Patent: "combining" / "combined" (1 and 2)

- **Maxell admits that "combine" means "blend"**



Case 5:16-cv-00178-RWS Document 33 Filed 04/06/17 Page 1 of 16 PageID #: 581

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

HITACHI MAXELL, LTD.,

Plaintiff,

v.

HUAWEI DEVICE USA INC. AND HUAWEI DEVICE CO., LTD.,

Defendants

Case No. 5:16-cv-00178-RWS

JURY TRIAL DEMANDED

PLAINTIFF HITACHI MAXELL, LTD.'S SUR-REPLY IN RESPONSE TO DEFENDANTS' REPLY IN SUPPORT OF MOTION TO DISMISS COUNTS 2 AND 4 OF THE FIRST AMENDED COMPLAINT

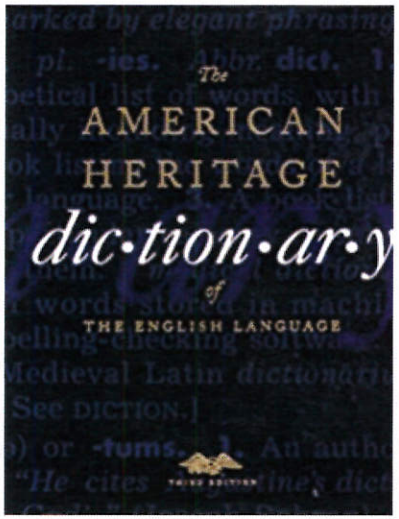
Dkt. 33 (Plaintiff's Sur-Reply to MTD)

The claims do not preempt every way of combining two data sources based on their reliability. *First*, they are directed specifically to the problem of locating mobile telephones. *Second*, they choose two specific data sources—GPS satellites and cellular networks. '292 patent, 5:32-33 & 6:1-9. *Third*, they recite a specific way of combining the data, based on respective reliability estimates. *Id.* at 6:11-15. *Fourth*, the specification describes concrete examples of how those reliability estimates are calculated (e.g., using the signal strength and the number of towers or satellites) and how they are used to blend the two sources of data (e.g., using a weighted average).[2] In short, the '292 patent does not "monopolize every potential

Dkt. 33 (Plaintiff's Sur-Reply to MTD)

'292 Patent: "combining" / "combined" (1 and 2)

- **Objective extrinsic evidence support Huawei's construction**



Combine defined as "To bring into a state of unity; merge."

Combining defined as "The act or process of joining, merging, or mixing two or more things."

Ex. 10 (The American Heritage Dictionary of the English Language Third Edition copyrighted 1996) at 377

Peer Commc'ns Corp. v. Skype Techs. SA, Skype, Inc., 2008 WL 4831001, at *6 (E.D. Tex. May 29, 2008) (using American Heritage Dictionary of the English Language to construe a term); *aff'd*, 33 F. App'x 570 (Fed. Cir. 2009).

'292 Patent: "combining" / "combined" (1 and 2)

- **This Court (and others) have construed "combining" consistent with Huawei's construction**

> *Charles E. Hill & Assocs., Inc. v. Abt. Elecs., Inc.*, 2012 WL 72714, at *13 (E.D. Tex. Jan. 10, 2012) ("combining" means "***merging or uniting*** in the remote computer the constant data and variable data in a meaningful way")
>
> *The American Heritage Dictionary of the English Language (3d ed. 1996) (Dkt. 100-18)*

> *Sw. EFuel Network, L.L.C. v. Transaction Tracking Techs., Inc.*, 2009 WL 3460265, at *8 (E.D. Tex. Oct. 23, 2009) (adopting agreement that "combining" means "***Merging*** the data from")

> *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 422 F. Supp. 2d 446, 457 (D. Del. 2006) ("combining" means "***adding together***").

’292 Patent: “combining” / “combined” (1 and 2)

- **Maxell’s construction (1) is a return to the prior art (“at least one”) and (2) reads out the preferred embodiment**

Prior Art: location estimate is either GPS or cellular position

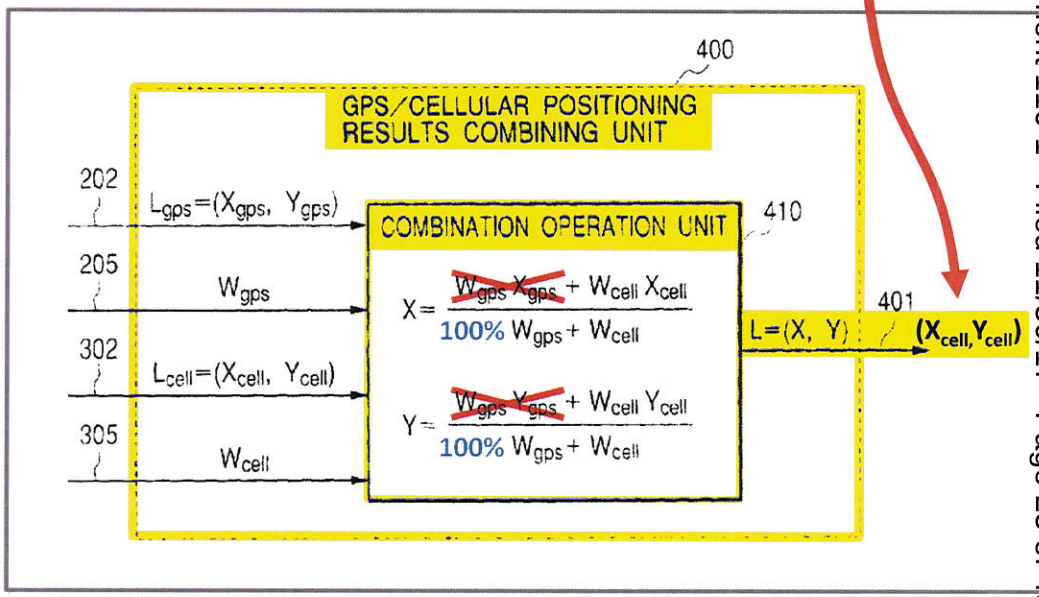
When a mobile handset attempts to determine its position by either the GPS method or the method using RF carriers from cellular base stations, there may be some locations where an accurate position determination can not be established. Consequently, location information serviceable areas may be restricted by conventional methods.

SUMMARY OF THE INVENTION

To address the above problems, a mobile handset according to the present invention is equipped with both position

’292 Patent, 1:58-67

Even if W_{gps} = 100%, Maxell’s construction would allow L_{gps} to be ignored.



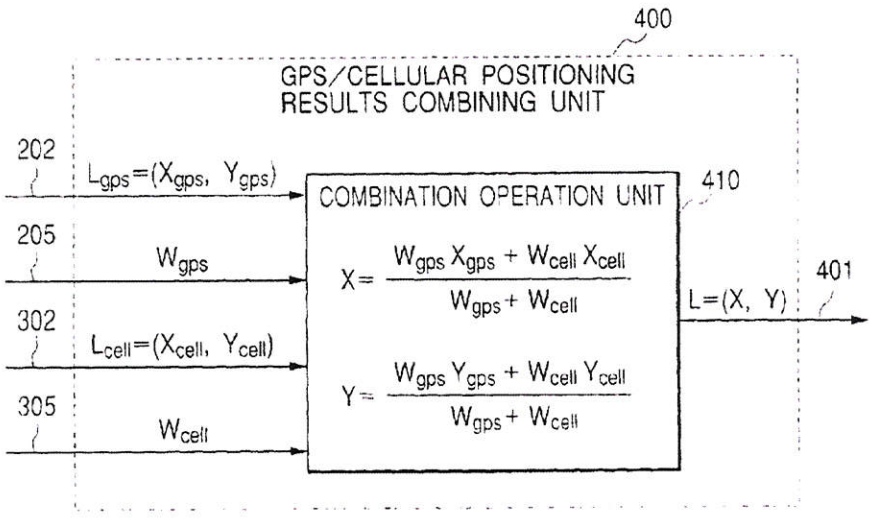
’292 Patent, Fig. 3

'292 Patent: "GPS/cellular … combining mean" (1)

No.	Term	Maxell	Huawei
4	"GPS/cellular positioning results combining means for combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability" ('292 Patent, Claim 1)	**Function**: combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability **Structure**: GPS/cellular positioning results combining unit 400 and/or components within a mobile handset that perform processing functions, such as, a CPU programmed to execute processing in accordance with the algorithm set forth in the specification, a processor that combines GPS/cellular position as described in Fig. 2 (block 605) and corresponding recitations in the specification as provided herein, or equivalents thereof. See e.g., (4:42-56), (Fig. 3 at 400), (3:12-17), (5:3-7).	**Function:** combining the GPS based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability **Structure:** GPS / Cellular Positioning Results Combining Unit 400 performing the weighted mean disclosed in Figure 3 and at col. 4:49-56, block 606 in Fig. 2

'292 Patent: "GPS/cellular … combining mean" (1)

FIG. 3



'292 Patent, Fig. 3

The mobile handset then preferably combines the positioning result L_{gps} using the GPS signals and the positioning result L_{cell} using the cellular signals (obtained in the above steps) depending on the reliability W_{gps} and the reliability W_{cell} for each positioning (step **606**). The mobile handset then outputs a final position calculation result L **607**.

'292 Patent, 3:12-17

The GPS/cellular positioning results combining unit **400** combines the positioning result **202** using the GPS signals and the positioning result **302** using the cellular signals, depending on the reliability **205** and the reliability **305** for each positioning, and it **400** outputs a position calculation result **401**.

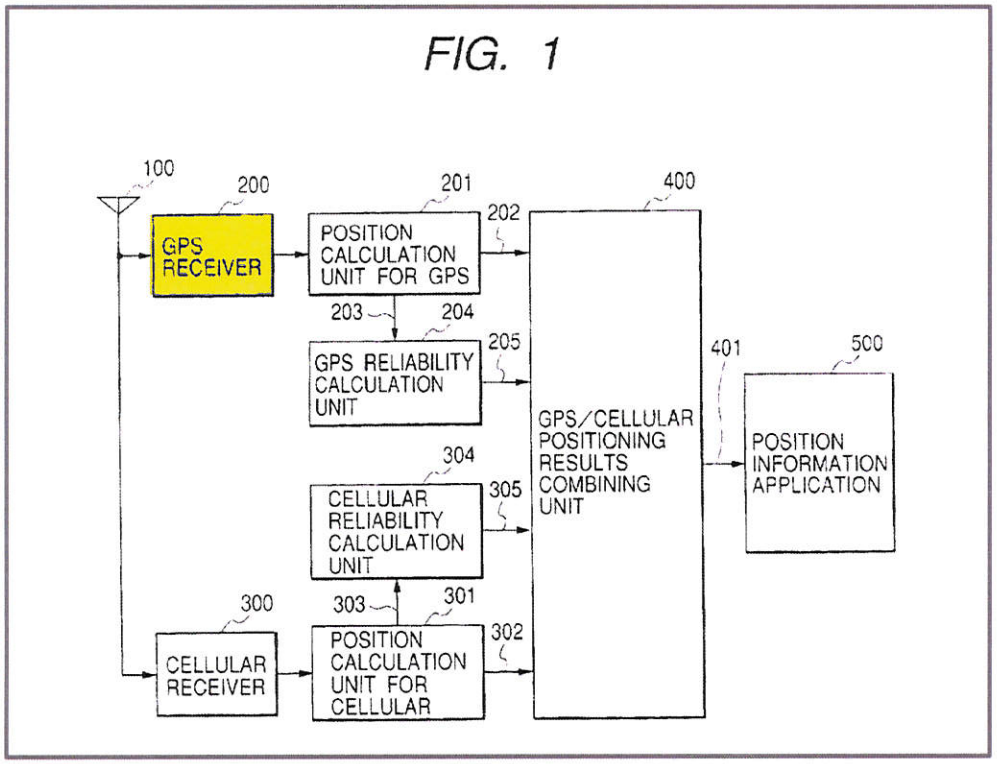
FIG. **3** represents an exemplary embodiment of the GPS/cellular positioning results combining unit **400**. In the FIG. **3** example, the positioning result **202** using the GPS signals and the positioning result **302** using the cellular signals are weighted with the reliability **205** and the reliability **305**, respectively. The combination operation unit **410** calculates a weighted mean of the above results and outputs the result as the position calculation result **401**.

'292 Patent, 4:42-56

'292 Patent: "GPS receiver means" (1)

No.	Term	Maxell	Huawei
5	"GPS receiver means for receiving GPS-oriented signals and generating received GPS signals" ('292 Patent, Claim 1)	**Function:** Receiving GPS-oriented signals and generating received GPS signals **Structure:** A GPS receiver 200 and/or components within a mobile handset that receive GPS signals, such as, an antenna and a transceiver or a processor that performs GPS receiving processes as described in Fig. 2 (block 600) and corresponding recitations in the specification as provided below or equivalents thereof. See e.g., (2:64-65; block 600 in Fig. 2), (3:24-32), (4:65-5:2), (2:53-57), (5:3-7).	**Function:** (1) receiving GPS oriented signals and (2) generating received GPS signals **Structure:** GPS receiver 200, Block 600 in Figure 2

'292 Patent: "GPS receiver means" (1)



'292 Patent, Fig. 1

FIG. **2** illustrates an example of the method in which a mobile handset determines its position, according to the present invention. Initially, the mobile handset executes a receive operation for GPS-oriented signals (hereinafter referred to as GPS signals) **600** including synchronization acquisition and reception timing measurements required for position determination using GPS. Thereafter, the mobile

'292 Patent, 2:51-57

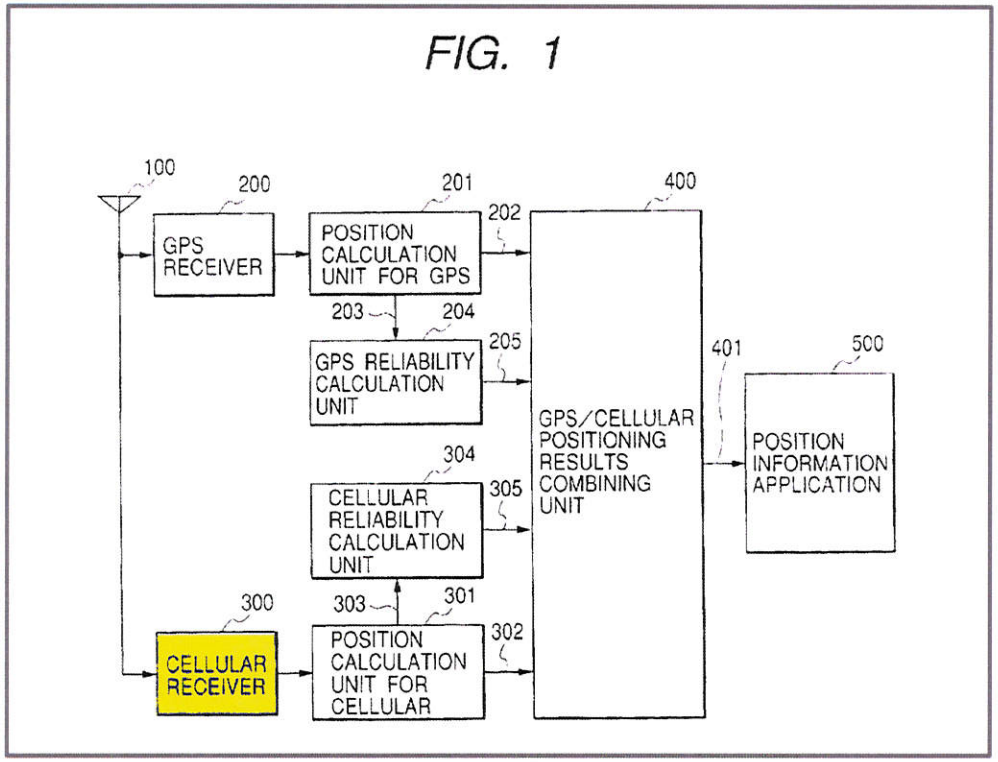
Based on the result of the operations executed by the GPS receiver **200**, a position calculation unit for GPS **201** calculates the position of the mobile handset using the GPS signals and outputs the GPS-based position calculation result **202** to a GPS/cellular positioning results combining unit **400**. At the same time, the position calculation unit for GPS **201** outputs information about the reliability of the GPS-based position calculation result **203** (for example, the number of GPS satellites used in the above calculation and the received signal quality of the signals from the GPS satellites) to a GPS reliability calculation unit **204**.

'292 Patent, 3:32-43

'292 Patent: "Cellular receiver means" (1)

No.	Term	Maxell	Huawei
6	"cellular receiver means for receiving cellular-oriented signals and generating received cellular signals" ('292 Patent, Claim 1)	**Function:** receiving cellular-oriented signals and generating received cellular signals **Structure:** A cellular receiver 300 and/or components within a mobile handset that receive and generate cellular signals, such as, an antenna, a transceiver, a processor that performs cellular receiving processes as described in Fig. 2 (block 603) and corresponding recitations in the specification provided herein, or equivalents thereof. See e.g., (2:66-3:4), (3:10-11; see block 603 in Fig. 2), (4:4-9), (2:53-57), (5:3-7).	**Function:** (1) receiving cellular-oriented signals and (2) generating received cellular signals **Structure:** cellular receiver 300, Block 603 in Fig. 2

'292 Patent: "Cellular receiver means" (1)



'292 Patent, Fig. 1

Additionally, the mobile handset executes a receive operation for cellular-oriented signals (hereinafter referred to as cellular signals) **603** including synchronization acquisition and reception timing measurements required for position determination using cellular signals from cellular base stations. Thereafter, the mobile handset calculates its posi-

'292 Patent, 2:66-3:4

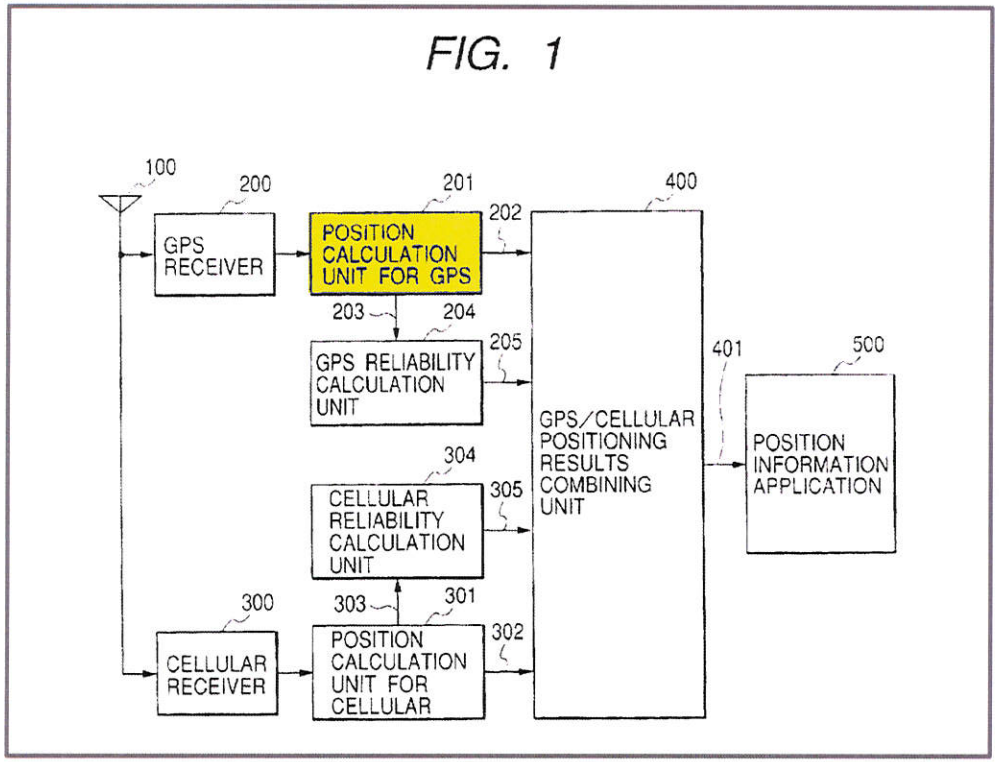
In much the same way, a cellular receiver **300** executes the receive operations required for position determination which preferably include: receiving the cellular signals of high/medium frequencies out of the signals received by the antenna **100**; baseband signal modulation; synchronization acquisition; and reception timing calculation.

'292 Patent, 4:4-9

'292 Patent: "GPS position calculation means" (1)

No.	Term	Maxell	Huawei
7	"GPS position calculation means for calculating the mobile handset's position from the received GPS signals and outputting a GPS-based position result" ('292 Patent, Claim 1)	**Function:** calculating the mobile handset's position from the received GPS signals and outputting a GPS-based position result **Structure:** At least one processor, for example, position calculation unit 201 and/or a mobile handset that perform processing functions or equivalents thereof. See e.g., (2:64-65; block 601 in Fig. 2), (3:24-38), (2:53-60), (5:3-7).	**Function:** (1) calculating the mobile handset's position from the received GPS signals and (2) outputting a GPS-based position result. **Structure:** position calculation unit for GPS 201, Block 601 in Fig. 2

'292 Patent: "GPS position calculation means" (1)



'292 Patent, Fig. 1

position determination using GPS. Thereafter, the mobile handset calculates its position using the GPS signals; that is, the handset calculates positioning result L_{gps} using the GPS signals **601**. The mobile handset also calculates the reliabil-

'292 Patent, 2:57-60

Based on the result of the operations executed by the GPS receiver **200**, a position calculation unit for GPS **201** calculates the position of the mobile handset using the GPS signals and outputs the GPS-based position calculation result **202** to a GPS/cellular positioning results combining unit **400**. At the same time, the position calculation unit for

'292 Patent, 3:33-37

'292 Patent: Three Indefinite Means Terms (1)

- "cellular position calculation means for calculating the mobile handset's position from GPS reliability calculation means for calculating GPS positioning reliability based on the GPS-based position result"
- "GPS reliability calculation means for calculating GPS positioning reliability based on the GPS-based position result"
- "cellular reliability calculation means for calculating cellular positioning reliability based on the cellular-based position result"

'292 Patent: Indefinite Means Terms (Cl. 1)

Williamson v. Citrix Online, LLC

> "***[T]he disclosure must be of adequate corresponding structure to achieve the claimed function***....[I]f a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim, a means-plus-function clause is indefinite."

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1352 (Fed. Cir. 2015) (quotation marks and citations omitted)

> "In cases ... that must be implemented in a special purpose computer, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor. ***We require that the specification disclose an algorithm for performing the claimed function***."

Id. (quotation marks and citations omitted)

> "The testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification."

Id. at 1354

Biomedino, LLC v. Waters Techs. Corp.

> "[A] bare statement that known techniques or methods can be used does not disclose structure.'"

Biomedino, LLC v. Waters Techs. Corp., 490 F.3d 946, 953 (Fed. Cir. 2007)

'292 Patent: Indefinite Means Terms (Cl. 1)

- Maxell cites *In re Katz*, which concerned generic functions for a generic computer:

In re Katz

"Katz ***has not claimed a specific function performed by a special purpose computer***, but has ***simply recited the claimed functions of 'processing,' 'receiving,' and 'storing.'*** Absent a possible narrower construction of the terms 'processing,' 'receiving,' and 'storing,' . . . ***those functions can be achieved by any general purpose computer without special programming***. . . . As such, it was ***not necessary to disclose more structure than the general purpose processor*** that performs those functions. Those seven claims do not run afoul of the rule against purely functional claiming, because ***the functions of 'processing,' 'receiving,' and 'storing' are coextensive with the structure disclosed***, i.e., a general purpose processor.

In re Katz Interactive Call Processing Patent Litig., 639 F.3d 1303, 1315-17 (Fed. Cir. 2011)

'292 Patent: Indefinite Means Terms (Cl. 1)

In re Katz

> ***But*** *Katz* notes that with "***specific functions*** that would need to be implemented by programming a general purpose computer to convert it into ***a special purpose computer capable of performing those specified functions***" this "require[s] that 'the specification ... disclose an algorithm for [any] recited function' that is performed solely or predominantly by a general purpose computer."

Katz (citing *Aristocrat,* 521 F.3d at 1333–34; *Harris,* 417 F.3d at 1253; *WMS Gaming,* 184 F.3d at 1349)

> Indeed, "by ***claiming a processor programmed to perform a specialized function without disclosing the internal structure*** of that processor in the form of an algorithm, [other of] Katz's claims exhibit the 'overbreadth inherent in open-ended functional claims,' ... in ***violation of the limits Congress placed on means-plus-function claims in section 112, paragraph 6***."

Katz (quoting *Halliburton Energy Servs. v. M–I LLC*, 514 F.3d 1244, 1256 n. 7 (Fed. Cir. 2008))

> For "***specific computer-implemented functions . . . corresponding algorithms must be disclosed***."

Katz

'292 Patent: 101/*Alice* and Indefiniteness of Certain Claim 1 Terms

Section 101:

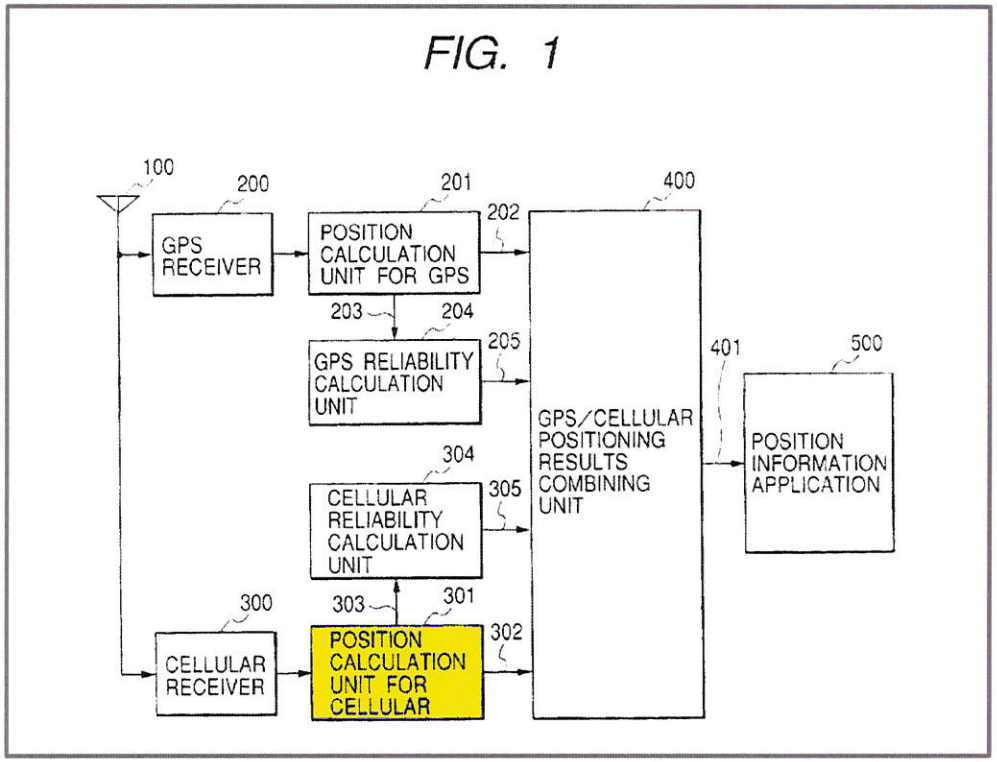
- Do the claims add any **inventive concept** under *Alice* Step 2?
- '292 Patent does ***not*** add inventive concepts; simply claims processing different types of data, which is insufficient. *See Electric Power*
- ***No claimed improvements*** to generic computer-based technology. *Cf. Enfish*
- For example, there are ***no algorithms*** for accomplishing these alleged improvements

Section 112: Lack of algorithm is also why Claim 1 is indefinite: simply stating a goal of computer processing is ***not*** structure

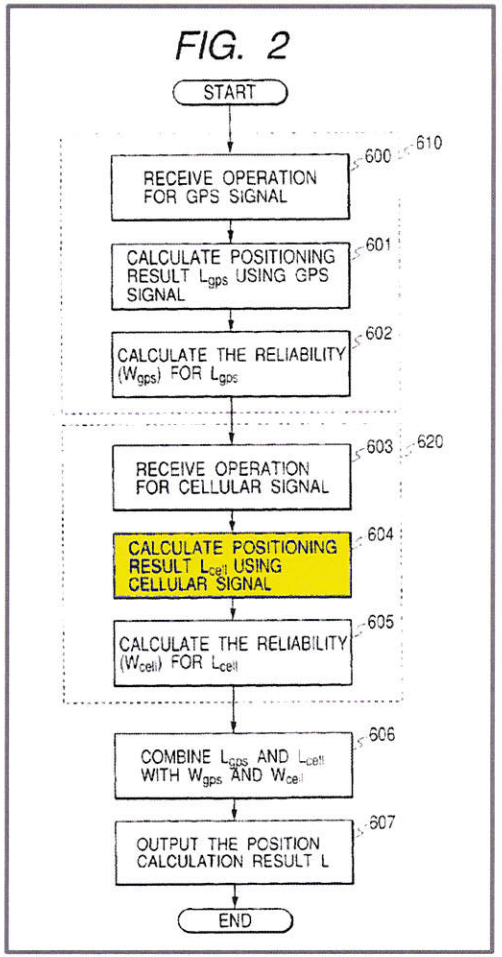
'292 Patent: "cellular position calculation means" (1)

No.	Term	Maxell	Huawei
8	"cellular position calculation means for calculating the mobile handset's position from GPS reliability calculation means for calculating GPS positioning reliability based on the GPS-based position result" ('292 Patent, Claim 1)	**Function:** calculating the mobile handset's position from the received cellular signals and outputting a cellular-based position result unction: calculating the mobile handset's position from the received cellular signals and outputting a cellular-based position result **Structure:** A position calculation unit 301 and/or components within a mobile handset that perform processing functions, such as, a CPU programmed to execute processing in accordance with the algorithm set forth in the specification, or a processor that performs cellular position calculation processes as described in Fig. 2 (block 604) and corresponding recitations in the specification as provided herein, or equivalents thereof. See e.g., (1:23-27), (3:10-11; block 604 in Fig. 2), (4:4-16), (2:66-3:6), (5:3-7).	**Function:** (1) calculating the mobile handset's position from the received cellular signals and (2) outputting a cellular based position result. **Structure:** position calculation unit for cellular 301, which is insufficient structure because the specification does not disclose the necessary algorithm or flowchart, which renders the term **indefinite**

’292 Patent: “cellular position calculation means” (1)



’292 Patent, Fig. 1



’292 Patent, Fig. 2

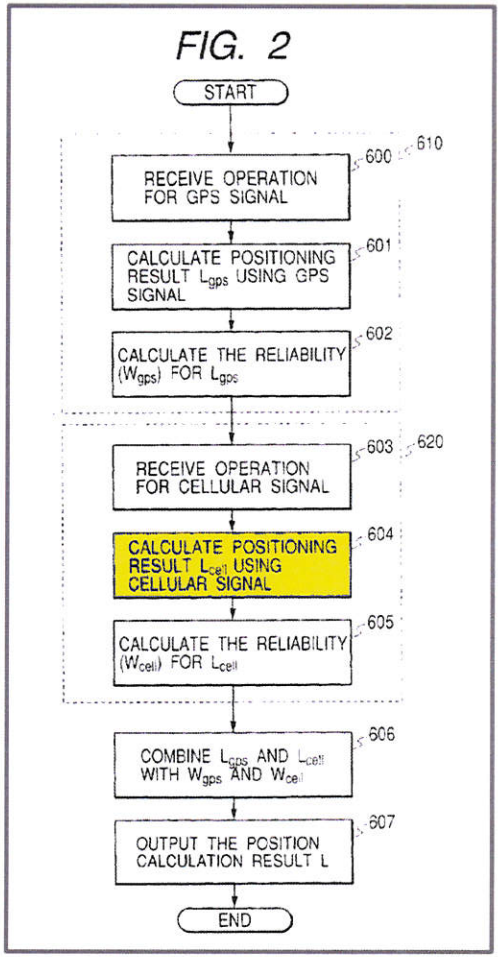
'292 Patent: "cellular position calculation means" (1)

stations. Thereafter, the mobile handset calculates its position using the cellular signals; that is, the handset calculates positioning result L_{cell} using the cellular signals **604**. The

'292 Patent, 3:4-6

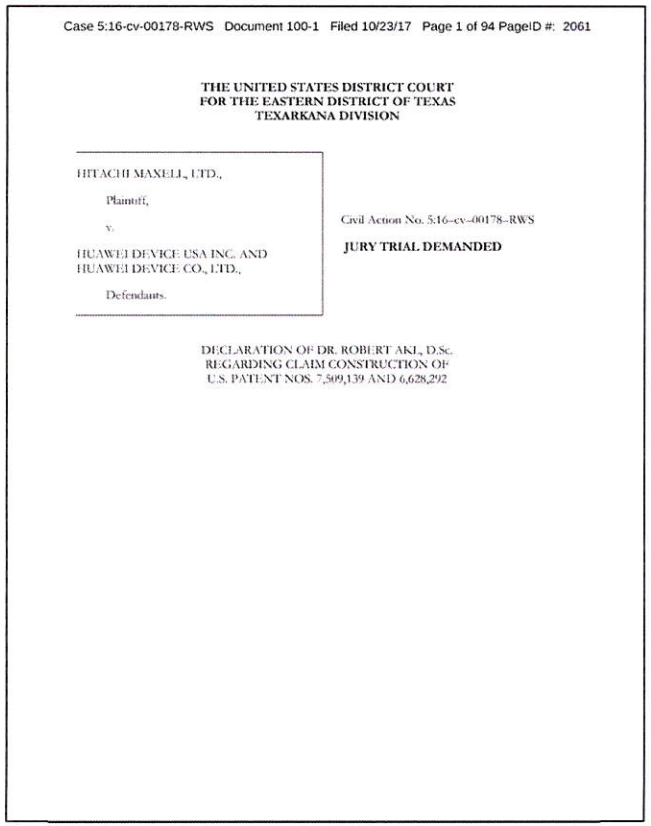
Based on the result of the operations executed by the cellular receiver **300**, a position calculation unit for cellular **301** calculates the position of the mobile handset using the cellular signals and outputs the cellular-based position calculation result **302** to the GPS/cellular positioning results combining unit **400**. At the same time, the position calcu-

'292 Patent, 4:10-15



'292 Patent, Fig. 2

’292 Patent: “cellular position calculation means” (1)



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THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

HITACHI MAXELL, LTD.,

Plaintiff,

v.

HUAWEI DEVICE USA INC. AND HUAWEI DEVICE CO., LTD.,

Defendants.

Civil Action No. 5:16-cv-00178-RWS

JURY TRIAL DEMANDED

DECLARATION OF DR. ROBERT AKL, D.Sc.
REGARDING CLAIM CONSTRUCTION OF
U.S. PATENT NOS. 7,509,139 AND 6,628,292

Akl Decl. (Dkt. 100-1) ¶¶132-35

132. In my opinion, the only structure disclosed in the ’292 patent that is clearly associated with the cellular position calculation means is position calculation unit for cellular 301 but this does not denote structure on its own and the ’292 patent does not disclose an algorithm or flowchart for calculating the mobile handset’s position from the received cellular signals.

133. In my opinion, position calculation unit for cellular **301** does not denote structure and is not an algorithm for performing the claimed functions. It is, instead, a black box that takes in inputs—received cellular signals—and produces a desired output—a cellular based position result—but the algorithm being performed within that black box is not disclosed in the ’292 patent.

134. A person of ordinary skill in the art would understand that, at the time of the invention of the ’292 patent, there were several ways to calculate a wireless terminal’s position using cellular-based signals and that at the time of the alleged invention these techniques were (and to this day typically still are) calculated as algorithms executed in a general-purpose processor.

135. In my opinion, the additional citations to the specification that Maxell identifies—(1:23-27), (3:10-11; block 604 in Fig. 2), (4:4-16), (2:66-3:6), and (5:3-7)—do not disclose structure for the claimed function of calculating the mobile handset’s position from the received cellular signals and outputting a cellular-based position result; they do not denote structure to one of ordinary skill nor do they disclose an algorithm for calculating a wireless terminal’s position using received cellular position.